

# Libra 16/22/25

The Libra 16/22/25 series is designed by Tucsen to meet the growing demand for expanded optical imaging fields in microscopy. These large-format monochrome cooled cameras are tailored for scientific and industrial applications.



## Key Features

Large Format Design<sup>[1]</sup>

High SNR Performance

High Sensitivity Mode

High Resolution Mode

0°C Sensor Cooling

Mosaic 3.0 Compatibility

## Benefits

16 mm, 22 mm, and 25 mm sensor options for wide field-of-view microscope imaging.

Up to 92% QE and 1.0e<sup>-</sup> read noise for high SNR imaging.

7.5 μm pixels optimized for 60x objectives in low-light conditions.

3.76 μm pixels match 20x–40x objectives, ensuring Nyquist sampling.

Active cooling keeps the sensor at 0°C ±0.5°C for stable imaging.

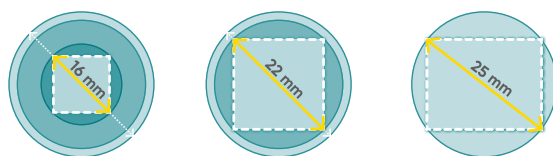
Supports advanced analysis and smart image processing.

## Typical Applications

- Fluorescence Imaging
- Tissue Section Scanning
- High-Throughput Imaging

## Noted Examples

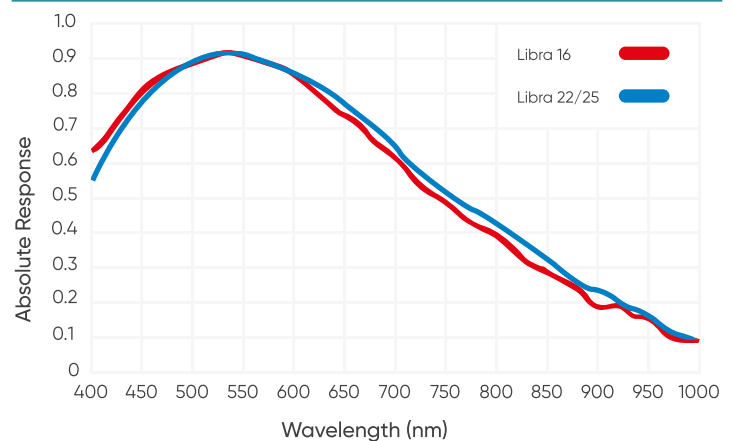
[1]Libra 16 has a compact 16mm sensor for standard C-mount systems. Libra 22 offers a wider 22mm sensor for mainstream fluorescence microscopes. Libra 25 features a 25mm sensor for ultra-wide field imaging.



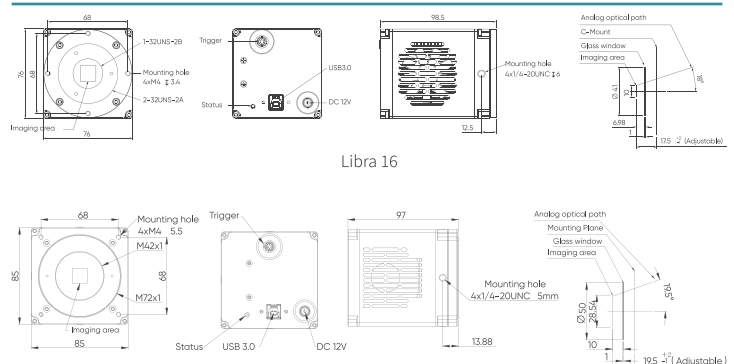
Model	Libra 16*	Libra 22	Libra 25
Diagonal	16 mm	22 mm	25 mm
Resolution	3000x3000	4096x4096	5200x4096
OpticalInterface	C mount	C mount	T/F mount

\*Libra 16 supports wider imaging up to 25mm with a 0.63x optical adapter.

## Quantum Efficiency



## Dimensions (Unit: mm)



Libra 22 & Libra 25

Model	Libra 16	Libra 22	Libra 25
Sensor Model	SONY IMX533CLK-D(BSI CMOS)		SONY IMX571BLR-J (BSI CMOS)
Color/Mono	Mono		
Pixel Size	3.76 $\mu\text{m}$ x 3.76 $\mu\text{m}$		
Diagonal	16 mm	22 mm	25 mm
Resolution	3000x3000	4096 × 4096	5200 × 4096
Effective Area	11.28 mm x 11.28 mm	15.4 mm × 15.4 mm	19.55 mm × 15.4 mm
Peak QE	92%@530 nm		
Dark Current	< 0.01 e <sup>-</sup> /pixel/s		
Bit Depth	14bit/16 bit		
Full Well Capacity	3.2 ke <sup>-</sup> (High Gain) / 48 ke <sup>-</sup> (Low Gain)		
Read Noise	1.0 e <sup>-</sup> (High Gain)		
Frame Rate	19 fps@HR	6.5 fps@HR	6.5 fps@HR
	63 fps@HS	37 fps@HS	32 fps@HS
Shutter Type	Rolling		
Binning	2 x 2, 3 x 3, 4 x 4		
Exposure Time	6 $\mu\text{s}$ ~ 60 s		
Image Correction	DPC		
ROI	Support		
Cooling Method	TEC air cooling		
Cooling Temperature	Stable cooling to 0°C (ambient temperature 26°C)		
Trigger Mode	Hardware, Software		
Trigger Output	Exposure start, global, readout end, high level, low level		
Trigger Interface	Hirose		
SDK	C, C++, C#		
Software	Mosaic 3.0, SamplePro, LabVIEW, MATLAB, Micro-manager 2.0		
Data Interface	USB 3.0		
Optical Interface	C mount	C mount	T/F mount
Power Supply	12 V / 6 A		
Power Consumption	≤ 50 W		
Camera Size	76 mm x 76 mm x 98.5 mm	85 mm x 85 mm x 97 mm	85 mm x 85 mm x 97 mm
Weight	835 g	945 g	945 g
Operating System	Windows, Linux		
Operating Environment	Temperature: 0~45°C, Humidity 0~95%		
Storage Environment	Temperature: -35~60°C, Humidity 0~95%		